

APPARATUS AND PROCESS FOR COATING PARTICLES

ABSTRACT OF THE DISCLOSURE

A process used to coat particles in an upward flowing fluidized bed dryer includes an insert disposed within the dryer. The insert includes a vertically adjustable cylindrical partition and a vertically adjustable spray nozzle wherein the cylindrical partition has a diameter-to-length ratio greater than 1. The particles are fluidized using a gas and are processed through a coating zone containing the cylindrical partition and become coated with the liquid spray. The particles exit the coating zone and enter the reconditioning zone wherein the liquid is allowed to dry onto the particles. The particles fall into the fluidized bed and are reprocessed through the coating zone by a draft effect created by the atomizing gas in the spray nozzle. The insert provides liquid coating flexibility allowing for the coating of liquid fat onto the particles. Additionally, since less fluidizing gas is required and not all of the particle bed needs to be fluidized, the coating process is more efficient and gentle. The coating process is continued until a selected weight percentage relative to the weight of the particles is coated onto the particles.